

**ABSTRACT OF THE DISCLOSURE**

A system and method is provided for digitally encoding video signals within an overcomplete wavelet video coder. A video coding algorithm unit locates significant wavelet coefficients in a first video frame and temporally predicts location information for significant wavelet coefficients in a second video frame using motion information. 5 The video coding algorithm unit is also capable of receiving and using spatial prediction information from spatial parents of the second video frame. The invention combines temporal prediction with spatial prediction to obtain a joint spatio-temporal prediction. The invention also establishes an order for encoding clusters of significant wavelet coefficients. The invention increases coding efficiency and provides an increased quality 10 of decoded video.